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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/059,421	01/31/2002	Tetsuo Shibuya	YOR920010126US2	6845
21254 7590 07/25/2005 MCGINN & GIBB, PLLC 8321 OLD COURTHOUSE ROAD SUITE 200 VIENNA, VA 22182-3817			EXAMINER LY, CHEYNE D	
			ART UNIT 1631	PAPER NUMBER

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/059,421	<b>Applicant(s)</b> SHIBUYA ET AL.	
	<b>Examiner</b> Cheyne D. Ly	<b>Art Unit</b> 1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 May 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-30 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Applicants' arguments filed May 13, 2005 have been fully considered but they are not deemed to be persuasive. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

2. Newly submitted claim 30 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

3. The last three lines of claim 30 recite "after determining whether said open reading frame includes a putative gene, said processor analyzes a next open reading frame in said DNA sequence." While, the examined invention, as originally filed, is directed to "a processor which translates an open reading frame (ORF) of said DNA." Further, claim 2 recites the limitation of "said processor translates a plurality of open reading frames." However, the translation of plurality of open reading frames in claim 2 is not dependent on whether an open reading frame includes a putative gene as required by claim 30. Therefore, new claim 30 recites limitations which cause said claim to be distinct from the examined invention. The distinct critical limitations of claim 30 from the examined invention supports the undue search burden if they were examined together.

4. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 30 has been withdrawn from consideration as being directed to a non-elected invention as originally filed. See 37 CFR 1.142(b) and MPEP § 821.03.

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5. Claims 1-29 are under examination.

### **CLAIM REJECTIONS - 35 USC § 101**

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 16-20, 22, and 23 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory algorithm type subject matter.

8. This rejection is maintained with respect to claims 16-20, 22, and 23, as recited in the previous office action mailed March 15, 2005.

### **RESPONSE TO ARGUMENTS**

9. On page 10, Applicant argues “claims 16 and 23 are not directed to processes but are instead directed to a method of identifying genes and a programmable storage medium, respectively.” Applicant’s argument is not persuasive as discussed below.

10. It is noted that claim 23 is directed to a “programmable storage medium...to perform a method for identifying genes.” However, the subject matter of claim 23 is directed to non-statutory algorithm subject matter because said claim is directed a computer readable medium comprising nonfunctional descriptive material. The limitation of “instructions executable by a digital processing apparatus” has been reasonably construed as nonfunctional descriptive material because said material is not structurally and functionally interrelated to the medium. When nonfunctional descriptive material is recorded on some computer-readable medium, it is not statutory since no requisite functionality is present to satisfy the practical application requirement under 35 U.S.C. 101.

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11. The pointed to section MPEP 2106 (IV)(B)(1)(a) further supports that claim 23 is directed to non-statutory subject matter. For example, the quoted citation from MPEP 2106 (IV)(B)(1)(a) states that “a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer and the rest of the computer...is thus statutory”, which is not the cause for the claimed invention as recited by claim 23. The subject matter of claim 23 is directed to non-statutory algorithm subject matter because said claim is directed a computer readable medium comprising nonfunctional descriptive material. It is noted that limitation of “instructions executable by a digital processing apparatus” has been reasonably construed as nonfunctional descriptive material because said material is not structurally and functionally interrelated to the medium. When nonfunctional descriptive material is recorded on some computer-readable medium, it is not statutory since no requisite functionality is present to satisfy the practical application requirement under 35 U.S.C. 101.

12. Specific to the quoted citation from the MPEP 2106 (IV)(B)(2)(a), the citation does not support claim 23 is directed to statutory subject matter because said claim is directed a computer readable medium comprising nonfunctional descriptive material as discussed above.

13. On page 11, Applicant argues claim 16 does not recite the term “computer”. “Thus, MPEP 2106 (IV)(B)(2)(b)(ii) clearly does not apply to the method defined in claim 16.”

Applicant’s argument has been fully considered and found to be unpersuasive because when read as a whole, claims 16-20, and 22 embody computer related processes.

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14. On page 12, Applicant cites *State Street Bank & Trust Co. v. Signature Financial Group Inc.* to support that the claimed invention is statutory, which has been found to be unpersuasive. For example, *State Street Bank & Trust Co. v. Signature Financial Group Inc.*, 149 F. 3d 1368, 1374, 47 USPQ2d 1596, 1601-02 (Fed. Cir. 1998), the "[T]ransformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces a useful, concrete and tangible result' -- a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades." The discussion directed to "a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades" has been reasonably construed as the controlling of a physical step resulted from said data manipulation. The difference between the claimed invention and the citation above is that the instant claims recite limitations directed to data manipulation without any limitation which could reasonably be construed as controlling any physical steps resulted from said data manipulation.

#### **BASIS FOR REJECTION**

15. Claims 16-20 and 22 are rejected because said claims are directed to a method comprising steps for manipulating sequence data without any physical alteration step, which is considered to be non-statutory subject matter. "For example, a computer process that simply calculates a mathematical algorithm that models noise is nonstatutory. However, a claimed process for digitally filtering noise employing the mathematical algorithm is statutory." (MPEP §

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2106 (IV)(B)(2) (b), part ii). Similar to the nonstatutory example above, the instant invention comprises algorithmic steps for manipulating sequence data without any physical alteration resulted from said analysis or modeling steps. It is acknowledged that the instant invention comprises algorithmic steps for identifying a putative gene wherein the result could potentially have a practical application. However, a process that merely performs a purely mathematical algorithm is nonstatutory despite the fact that it might inherently have some usefulness (MPEP § 2106 (IV)(B)(2) (b), part ii).

16. Claim 23 recites "A programmable storage medium...to perform a method for identifying genes" is directed to non-statutory algorithm subject matter because said claim is directed a computer readable medium comprising nonfunctional descriptive material. It is noted that limitation of "instructions executable by a digital processing apparatus" has been reasonably construed as nonfunctional descriptive material because said material is not structurally and functionally interrelated to the medium. When nonfunctional descriptive material is recorded on some computer-readable medium, it is not statutory since no requisite functionality is present to satisfy the practical application requirement under 35 U.S.C. 101.

#### **CLAIM REJECTIONS - 35 USC § 102**

17. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

18. Claims 1-6, 9-11, 13-21, 23, and 27-29 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Nishikawa et al. (December 2000).

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19. This rejection is maintained with respect to claims 1-6, 9-11, 13-21, 23, and 27-29, as recited in the previous office action mailed March 15, 2005. The amendment to the claims does not overcome the instant the instant rejection.

### **RESPONSE TO ARGUMENT**

20. On pages 12-13, Applicant argues Nishikawa et al. does not disclose the limitation of “a processor which: translates an open frame (ORF)...in said DNA sequence” (claim 1, lines 4-9). Applicant’s argument is not persuasive because Nishikawa et al. discloses a method and system for functional annotation of full-length cDNA sequences based on a database similarity search results wherein the input device comprises four SUN workstations (page 13, section 2.1). The disclosure of the four SUN workstations reasonably represents the required processor.

Nishikawa et al. defines a similarity level for an alignment of cDNA sequence with a known amino acid sequence wherein the BLASTX program and Swiss-prot database are used (page 15, Section 2.3.1, a). It is well known in the art that the BLASTX program compares a DNA query sequence to the protein database by translating said DNA sequence (Baxevanis et al.).

Nishikawa et al. uses the ORF annotation system for motif analysis, which represent patterns, and prediction ORFs, cellular localization, and transmembrane regions which represent the identification of putative genes (page 13, section 2.2). The citation above anticipates the argued limitations.

21. Applicant’s argument “[n]owhere does Nishikawa teach or suggest locating in an amino acid translations of an ORF...whether the open reading frame includes a putative gene.”

Applicant’s argument is not persuasive because Nishikawa et al. defines a similarity level for an



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alignment of cDNA sequence with a known amino acid sequence wherein the BLASTX program and Swiss-prot database are used (page 15, Section 2.3.1, a). It is well known in the art that the BLASTX program compares a DNA query sequence to the protein database by translating said DNA sequences (Baxevanis et al.). Nishikawa et al. uses the ORF annotation system for motif analysis, which represent patterns, and prediction ORFs, cellular localization, and transmembrane regions which represent the identification of putative genes (page 13, section 2.2).

22. Applicant's argument "Examiner then surprisingly attempts to improperly rely on two secondary references...to supports his allegation that Nishikawa anticipates the claimed invention" is not persuasive because secondary references Altschul et al. and Baxevanis et al. have been cited to support the inherent features of the well known in the art program, BLASTX. Further, the MPEP 2131.01 states a 35 U.S.C. 102 rejection over multiple references has been held to be proper when the extra references are cited show that a characteristic not disclosed in the reference is inherent.

23. Applicant argues "Nishikawa merely aligns a cDNA sequence with an amino acid sequence (Nishikawa at section 2.3.1 a)) not to locate a putative gene, but to develop a database of full-length cDNA sequences." Applicant's argument is not persuasive because said section 2.3.2 a) describes "a new method of functional annotation of full-length cDNA sequences based on a database similarity search results. First, we define a similarity level for an alignment of cDNA sequence with a known amino acid sequence. Blastx[12] was used as a similarity search program, and a Swiss-prot is used as an amino acid sequence database." As discussed above, BLASTX program compares a DNA query sequence to the protein database by translating said

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DNA sequences wherein the discovered sequence similarity has been reasonably construed as a type of pattern described in the instant specification. Further, Nishikawa et al. uses the ORF annotation system for motif analysis, which represents patterns, and prediction ORFs, cellular localization, and transmembrane regions, which represent the identification of putative genes (page 13, section 2.2).

24. Applicant asserts “a pattern such as in the claimed invention is not merely an amino acid sequence but may be defined as a pattern (e.g. of amino acid) which may be discovered, for example, in a protein sequence.” Applicant’s argument is not persuasive because the instant specification does not define the limitation of “pattern” such that one of ordinary skill in the art at the time of the instant invention would have recognized it to be distinct from the patterns discover by the method of Nishikawa et al. Further, as discussed above, the disclosure of Nishikawa et al. has been reasonably construed as a type of pattern described in the instant specification.

25. Specific to the argument spanning pages 13-14, claims 1-6, 9-11, 13-21, 23, and 27-29 do not recite the argued limitation of “pattern discovery algorithm.” Therefore, Applicant’s argument is not persuasive because citation of limitations that are not recited in the claims is not required for anticipatory basis. Further, as discussed above, Nishikawa et al. reasonably discloses “locates in said amino acid translation occurrences of said patterns.

## **BASIS FOR REJECTION**

26. The citation of the Altschul et al. and Baxevanis et al. references are not used as prior art, but only to expand on the inherent features of the well known in the art program, BLASTX.

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27. Nishikawa et al. discloses a method and system for functional annotation of full-length cDNA sequences based on a database similarity search results wherein the input device comprises four SUN workstations (page 13, section 2.1), as in instant claim 1, lines 1-3.

28. Nishikawa et al. defines a similarity level for an alignment of cDNA sequence with a known amino acid sequence wherein the BLASTX program and Swiss-prot database are used (page 15, Section 2.3.1, a). It is well known in the art that the BLASTX program compares a DNA query sequence to the protein database by translating said DNA sequence (Baxeavanis et al.). Nishikawa et al. uses the ORF annotation system for motif analysis, which represent patterns, and prediction ORFs, cellular localization, and transmembrane regions which represent the identification of putative genes (page 13, section 2.2), as in instant claim 1, lines 4-9, and claims 16, 23, and 27-29.

29. The use of the BLASTX program and Swiss-prot database as disclosed by Nishikawa et al. (page 15, Section 2.3.1, a). Motifs can be selected from motif list. An ORF from ORF list (plurality) can be selected and the analyzed results are displayed graphically based on sequence similarity search results (match) (page 14, lines 3-5), as in instant claims 2-4.

30. The disclosure of the Swiss-prot database cited above has been reasonably construed as “a parent database comprising at least one amino acid sequence”, as in instant claims 5 and 17.

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31. Nishikawa et al. discloses in the motif analysis Prosite and Pfam are used as motif databases (page 13, section 2.2), as in instant claims 6 and 18.

32. The ORF annotation system perform initiation codon analysis for identifying ORFs by using ATGpr (page 13, section 2.2) which represents “a portion of said DNA sequence between a start codon and a stop codon” as in instant claim 9.

33. Nishikawa et al. defines a similarity level for an alignment of cDNA sequence with a known amino acid sequence wherein the BLASTX program and Swiss-prot database are used. Similarity level is defined as a function of alignment variables, such as identity, E-value, and consensus length of the alignment (page 15, Section 2.3.1, a), which represents “a predetermined number of pattern matches...”, as in instant claims 10 and 19.

34. The similarity level is defined as a function of alignment variables, such as E-value cited above has been reasonably construed as a type of “weight”. E-value is dominant for distinguishing low similarity but for distinguishing high similarity identity is more adequate because E-values of alignments of which identify are 100% are different from each other if the alignments lengths are different (page 15, Section 2.3.1, a), as in instant claims 11 and 20.

35. It is noted that the instant specification does not specifically define any “pattern matching algorithm”, therefore, the citation of BLASTX from Altschul et al. (page 15, Section 2.3.1, a,

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and page 23, Reference number 12), which is a type of dynamic programming algorithm for sequence searching, anticipates instant claim 13.

36. Nishikawa et al. discloses a method of functional annotation for full-length cDNA sequences based on a database similarity search results wherein the input device comprises four SUN workstations and a display system (page 13, section 2.1), as in instant claims 14 and 15.

37. Figure 3 (page 15) illustrates a display for similarity search results as directed to motifs and ORFs, as in instant claim 21.

#### **CLAIM REJECTIONS - 35 USC § 103**

38. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

39. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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40. Claims 1-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa et al. (December 2000) taken with Rigoutsos et al. (1998).

41. This rejection is maintained with respect to claims 1-29, as recited in the previous office action mailed March 15, 2005. The amendment to the claims does not overcome the instant the instant rejection.

## **RESPONSE TO ARGUMENTS**

42. On page 14, Applicant argues “these references would not have been combined...these references are completely unrelated, and no person of ordinary skill in the art would have considered combining these disparate references, absent impermissible hindsight.” Applicant’s argument is not persuasive because the disclosure of Nishikawa et al. and Rigoutsos et al. is directed to analogous art and it is reasonably pertinent to the particular problem with which the Applicant was concerned. For example, Nishikawa et al. describes “a new functional annotation method based on database search results of similarity level profile over words appearing in the database” (page 13, lines 8-11). The method of Nishikawa et al. requires the use of the BLASTX program and Swiss-prot database (page 15, Section 2.3.1, a). Rigoutsos et al. describes a pattern-discovery algorithm which uses the SwissProt database comprising amino acid sequences translated from nucleic acid sequences (pages 57, column 1, The algorithm §, to page 59, column 1, and page 60, column 2, Verifying Observations §). Rigoutsos et al. describes that alignment algorithms such as the alignment algorithm described by Nishikawa et al. suffer from several inherent drawbacks. TEIRESIAS is an improvement for overcoming the difficulty that alignment algorithms have in identifying local similarities (page 55, column 1, Introduction

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Section, to column 2). An artisan of ordinary skill in the art at the time of the instant invention would have been motivated by the improvement described by Rigoutsos et al. to utilize TEIRESIAS in the method and system of Nishikawa et al. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to use TEIRESIAS for functional annotation of full-length cDNA sequences based on a database similarity search results as taught by Nishikawa et al. and Rigoutsos et al.

43. Specific to the argument directed to the limitation of “a processor which: translates an open frame (ORF)...in said DNA sequence” (claim 1, lines 4-9), said limitation has been described by Nishikawa et al. as discussed above.

44. Applicant further argues that the pattern discovery of Rigoutsos et al. is distinct from the “gene identification (e.g. gene discovery)” of the instant invention. Applicant’s argument is not persuasive because the instant specification does not define the limitation of “pattern” which one of ordinary skill in the art at the time of the instant invention would have recognized to be distinct from the patterns discover by the method of Nishikawa et al. or Rigoutsos et al. Further, as discussed above, the disclosure of Nishikawa et al. and Rigoutsos et al. has been reasonably construed as a type of pattern described in the instant specification.

#### **BASIS FOR REJECTION**

45. Nishikawa et al. describes the limitations to claims 1-6, 9-11, 13-21, 23, and 27-29 as discussed above.

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46. However, Nishikawa et al. does not describes the limitation of a pattern discovery algorithm such as the TEIRESIAS algorithm required in claims 7, 8, 12, 22, and 24-26.

47. Rigoutsos et al. describe a new algorithm, TEIRESIAS, for the discovery of rigid patterns (motifs) in biological sequences (Abstract etc.), as instant claims 7, 8, 22, and 25.

48. Rigoutsos et al. a pattern-discovery algorithm which uses the SwissProt database comprising amino acid sequences translated from nucleic acid sequences for determining matches by generating a scoring matrix from the pattern of amino acid position of the patterns wherein threshold values are assigned a weight of one for match and nothing for the others. The final score assigned to a sequence is the maximum among all the scores of its offsets, which represents "the sum of weights". The patterns with the highest scoring sequences (exceeds predetermined threshold) determine the sequence of the specific sequence (pages 57, column 1, The algorithm §, to page 59, column 1, and page 60, column 2, Verifying Observations §), as in instant claims 12, 24, and 26.

49. Rigoutsos et al. describes that alignment algorithms such as the alignment algorithm described by Nishikawa et al. suffer from several inherent drawbacks. TEIRESIAS is an improvement for overcoming the difficulty that alignment algorithms have in identifying local similarities (page 55, column 1, Introduction Section, to column 2).



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50. An artisan of ordinary skill in the art at the time of the instant invention would have been motivated by the improvement described by Rigoutsos et al. to utilize TEIRESIAS in the method and system of Nishikawa et al. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to use TEIRESIAS for functional annotation of full-length cDNA sequences based on a database similarity search results as taught by Nishikawa et al. and Rigoutsos et al.

### CONCLUSION

51. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

52. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

53. This application contains claim 30 drawn to an invention nonelected invention examined as originally presented. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

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54. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547. The USPTO's official fax number is (571) 273-8300.

55. Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

56. For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

57. Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Dune Ly, whose telephone number is (571) 272-0716. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

58. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ardin Marschel, Ph.D., can be reached on (571) 272-0718.

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C. Dune Ly   
7/20/05

  
**ARDIN H. MARSCHEL**  
**SUPERVISORY PATENT EXAMINER**